Cervical vagus nerve morphometry and vascularity in the context of nerve stimulation - A cadaveric study

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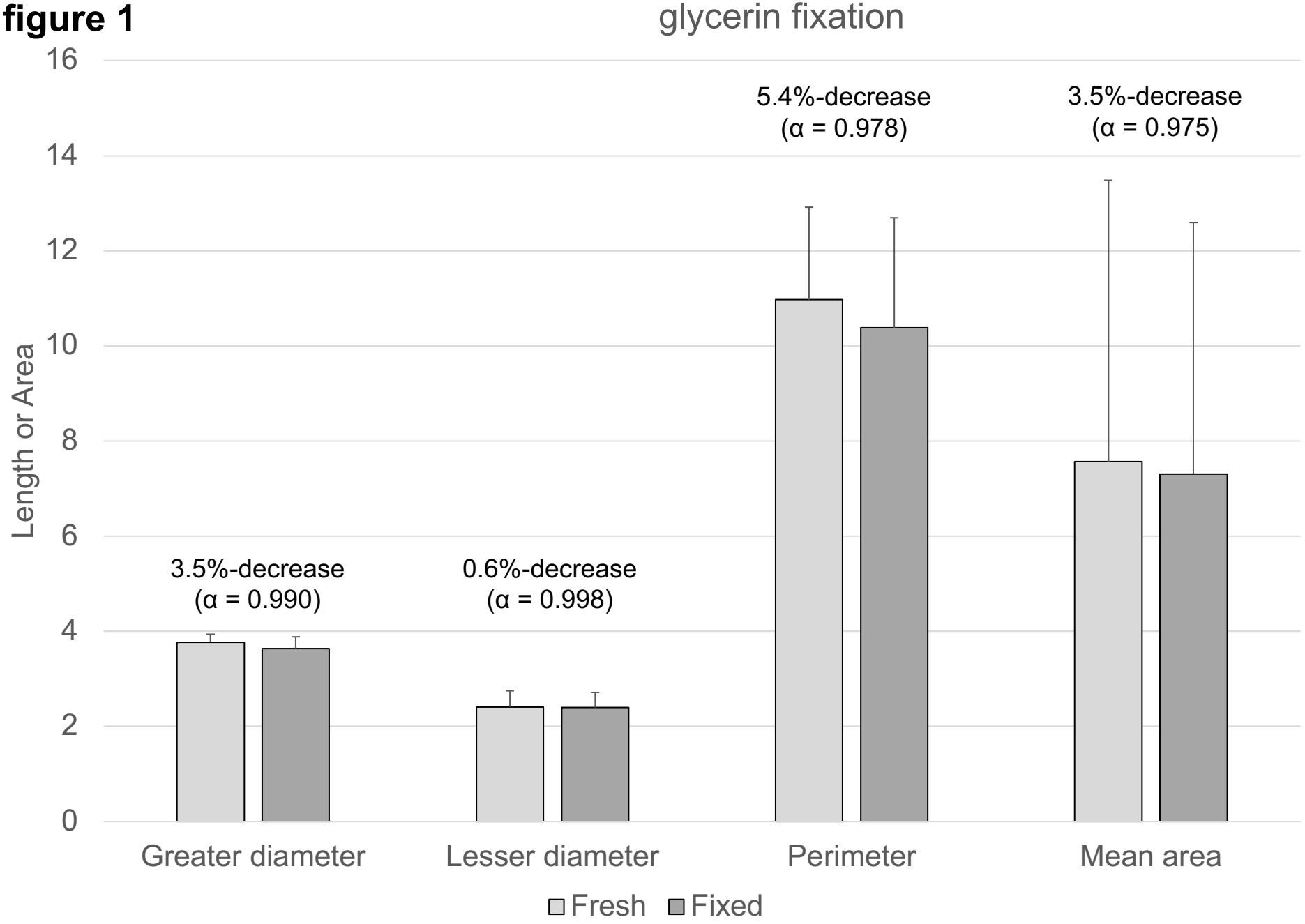
Key words

anatomical landmark, carotid sheath, cervical vagus nerve, electrical stimulation, epilepsy, nerve morphometry, surface topography, vagus nerve stimulation

Supplement figure 1



Supplement table 1

n=51	Age [years]	Sex	Side	Branching	Greater diameter [mm]	Lesser diameter [mm]	Cross-sectional area [mm^2]	Skin distance [mm]	Midline distance [mm]
All	88.1 ± 6.6				5.1 ± 1.5	4.1 ± 1.3	7.2 ± 3.1	36.2 ± 9.5	34.5 ± 6.2
Maximum	103				10.2	7.3	17.4	60.0	51.0
Minimum	73				3.4	2.0	3.2	18.0	21.0
Females	88.4 ± 6.9	16			4.8 ± 1.4	3.9 ± 1.1	6.6 ± 2.6	36.5 ± 10.1	34.1 ± 6.4
Males	87.6 ± 5.8	11			5.6 ± 1.6	4.4 ± 1.6	8.1 ± 3.3	35.9 ± 8.2	35.0 ± 5.7
Left	88.0 ± 6.6		26		5.2 ± 1.7	4.0 ± 1.4	7.3 ± 3.6	36.8 ± 8.5	34.2 ± 6.1
Right	88.1 ± 6.3		25		5.0 ± 1.3	4.2 ± 1.1	7.2 ± 2.4	35.6 ± 10.1	34.8 ± 6.2
No branching	89.0 ± 5.9			44	5.3 ± 1.6	4.2 ± 1.3	7.5 ± 3.1	36.1 ± 9.3	35.0 ± 6.0
Branching	86.5 ± 7.2			7	4.1 ± 0.4	3.4 ± 0.8	5.4 ± 1.3	36.7 ± 9.5	31.6 ± 6.4
95-percentile					7.5	6.4	11.6	51.1	45.5
90-percentile					7.0	5.8	11.0	49.0	41.0
67-percentile					4.5	4.3	7.0	38.8	36.0
50-percentile					4.8	3.8	6.5	36.0	35.0

Supplement table 2

n=51	Age [years]	Number Fascicles	External vessel	Subepineural vessels			Subperineural vessels		
				Number	Minimum diameter [µm]	Maximum diameter [µm]	Number	Minimum diameter [µm]	Maximum diameter [µm]
All	88.1 ± 6.6	5.2 ± 3.5		8.7 ± 6.4†	30.5 ± 12.9¶	105.2 ± 55.2¢	6.9 ± 7.3†	16.2 ± 11.8¶	31.5 ± 25.0¢
Maximum	103	21.0		31.0	70.0	350.0	34.0	75.0	148.0
Minimum	73	1.0		0.1	12.0	29.0	1.0	7.0	11.0
Females	88.4 ± 6.9	4.2 ± 2.1		7.5 ± 4.8	32.2 ± 14.0	92.8 ± 37.5	6.9 ± 7.5	17.2 ± 13.7	31.1 ± 27.6*
Males	87.6 ± 5.8	6.6 ± 4.4		10.4 ± 7.8	27.7 ± 9.7	125.8 ± 70.0	7.0 ± 6.7	14.8 ± 7.2	32.0 ± 19.7*
Left	88.0 ± 6.6	5.1 ± 4.1		8.5 ± 7.1	32.4 ± 14.8	102.3 ± 37.0	5.6 ± 4.0	18.4 ± 14.2	40.0 ± 29.9+
Right	88.1 ± 6.3	5.2 ± 2.6		8.8 ± 5.4	28.7 ± 10.0	108.1 ± 67.1	8.3 ± 9.2	14.0 ± 7.7	22.9 ± 13.4+
No branching	89.0 ± 5.9	5.5 ± 3.6		8.9 ± 6.7	31.6 ± 13.0	110.0 ± 56.8	7.0 ± 7.6	16.3 ± 12.2	32.6 ± 26.4
Branching	86.5 ± 7.2	3.2 ± 1.1		6.8 ± 2.1	23.5 ± 7.2	74.5 ± 17.7	6.5 ± 4.6	15.8 ± 7.5	24.8 ± 5.5
External vessel yes	88.2 ± 6.7	4.7 ± 2.6	25	7.5 ± 5.1	35.0 ± 11.1#	110.1 ± 63.1	7.9 ± 7.6	18.2 ± 15.4	38.5 ± 31.2
External vessel no	88.1 ± 5.9	5.6 ± 4.0	26	9.8 ± 7.1	26.2 ± 12.6#	100.6 ± 44.6	6.1 ± 6.8	14.6 ± 6.6	25.7 ± 15.3